A marked up version of the claims from the original filing of Feb. 25, 2002

We claim:

1 (currently amended) A ~~cervical vertebral~~ bone stabilizing system ~~and method~~, having a rigidizing plate with holes and two or more bone screws, for the purpose of fixing one ~~vertebra or~~ bone segment, within a bone column, with respect to one or more other ~~vertebra~~ bone segments or ~~with respect to another~~ an implant ~~or graft material~~ within the ~~human spine~~ bone column, the stabilizing system containing:

(a) ~~a fixation~~ the bone screws, ~~pin, or other bone grabbing device~~ with ~~locking taper~~ a head portion having a driving feature which is engaged by a driving tool, a plate shank portion, a threaded portion, and a bone shank portion extending through machined and threaded holes into the underlying bone for a distance of 1mm or greater, and

(b) ~~two or more bone screws configured to~~ ~~engage~~ a the rigidizing plate, ~~and to engage previously machined~~ with holes ~~within said vertebra~~ to receive the bone screws for the purpose of retaining ~~said~~ the plate to, ~~said vertebrae,~~ the bone segment and

(c) ~~said~~ the bone screw's ~~with a~~ plate shank portion is ~~and a head portion~~ configured and sized to ~~be affixed by~~ make an interference fit within ~~said~~ the plate holes and ~~also affixed~~ ~~a~~ the screw's bone shank portion is configured and sized to make an interference fit within ~~a~~ the bone shank portion of ~~said~~ the machined holes ~~into~~ in the ~~vertebral~~ bone segments~~, and~~.

~~(d) said screws extending through the said plate from the anterior surface through the said posterior surface holes engaging said machined bone screw holes for fastening the plate to at least two vertebral bodies of a human cervical spine along the anterior side of the spine.~~

2. (canceled)

3. The ~~cervical~~ bone stabilizing system of claim 1, wherein the ~~said~~ interference fit portion of ~~said~~ the bone screws contain one or more locking tapers which extend into the ~~underlying~~ bone and engage mating tapers in the bone. ~~to prevent screw backout.~~

4. (currently amended) The ~~cervical~~ bone stabilizing system of claim ~~1~~ 3, wherein ~~the~~ a portion of the screw shanks engage the plate holes which ~~and the said vertebral holes~~ are tapered to engage mating tapers of a portion of the bone screw shanks. ~~of claim~~

5. (canceled)

6. (currently amended) The ~~cervical~~ bone stabilizing system of claim 1, wherein the ~~said~~ screws are fixed to the ~~said~~ plate and ~~vertebral~~ the bone holes with an adhesive~~, cement, or other bonding~~ materials.

Claims 7 – 11 (canceled).

12. (currently amended) The ~~cervical~~ bone stabilizing system of claim 1, wherein the ~~said~~ screws have ~~has~~ self tapping screw threads.

13. (canceled)

14. (currently amended)A bone stabilizing ~~system and~~ method, using plates with holes and bone screws for the purpose of fixing one bone segment with respect to one or more other bone segments or ~~with respect to another~~ implants ~~or graft material~~ within ~~the human skeleton~~ a bone column ~~containing~~ comprising the following steps:

(a) ~~a fixation screw, pin, or other bone grabbing device with a locking taper extending into the underlying bone for a distance 1mm or greater~~) providing the system components of claim 4, and

(b) ~~two or more bone screws configured to engage a fixating plate or device, and to engage previously machined~~ machining holes in ~~within~~ ~~said~~ the bone segments for the purpose of retaining the engagment of the bone screws and retaining fixation of the plate to ~~said~~ the bones, and

(c) placing the ~~said~~ screws, with a shank portion and a head portion configured and sized to be affixed by an interference fit within the ~~said~~ plate hole and also affixed within a portion of the ~~said~~ machined holes in the bone~~, and~~.

(d) ~~said screws extending through a fixation device from the exterior surface through the holes engaging said bone screw holes for fastening the fixation device to bone~~.

15 - 26 (canceled)

27 (new) A bone fixation device using a plate with holes and screws, where the screws have a threaded portion and an unthreaded portion of a shank extending through the plate holes and extending into machined holes in the underlying bone with an interference fit, for the a purpose of fixing one bone segment with respect to one or more other bone segments or with respect to an implant.

28. (new) The fixation device of claim 27 where the unthread portion of the shank is tapered.